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### THE MOLE, TALPA EUROPÆA (LINN).

BY THE EDITOR.

### PLATE VI.

At the present day, when such close attention is paid to details of structure as a guide to the classification of animals, and when in the case of the Mammalia the form of the skull and the dentition are so strongly relied upon to distinguish the several orders in that class of Vertebrates, it is amusing to find that nearly 300 years ago the peculiar dentition of the insectivorous Mole had already attracted the attention of English naturalists.

The Rev. Edward Topsel, Chaplain of St. Botolph's, Aldersgate, in his curious 'Historie of Four-footed Beastes,' published

in 1607, quaintly remarks:-

"I do utterly dissent from all them that holde opinion that the Mole, or Want, is of the kinde of Myse, for that all of them in generall, both one and other, have two large crooked foreteeth, which is not in Moles, and therefore wanting those as the inseparable propriety of kind, we will take it for graunted that it pertaineth not to that ranke or order of four-footed beastes." (p. 499).

He clearly perceived a difference between the long-curved incisors of the Rodentia, or gnawing animals, and the short, sharp front teeth of the Insectivora, although he failed to

express it scientifically.

The distinction, however, to which he alluded is one which at zoologist.—DEC. 1887.



the present day is still obviously characteristic, and indicative of the creature's mode of life. Indeed, we have only to examine a Mole attentively to see how admirably its structure is adapted to its habits.

Spending most of its time underground as it does, in tunnels of its own construction, we note first that the cylindrical form of its body must facilitate progress in its burrows; secondly, that the ears having no external conch, are not liable to be filled with the crumbling soil which is displaced as it works its way underground; thirdly, that the fur, being inserted perpendicularly to the surface of the skin, will lie in any direction, and does not prevent a retrograde movement in the tunnel, should a retreat in that direction become necessary; fourthly, that the forelimbs, short, broad, and spade-shaped, are admirably suited for digging; and fifthly, that the prehensile snout and long jaws, set with sharp teeth, are adapted for seizing, holding, and masticating the earthworms and insect larvæ upon which it chiefly preys.

Keenness of sight not being required in the darkness of its undergound chambers, that sense is reduced to a minimum of development; but coutrary to popular belief the animal is not blind, although the eyes are very minute, and completely buried in the fur which surrounds them. The sense of smell, on the other hand, is believed to be well developed, to enable the detection of its food, its enemies, and its own kind. The sense of hearing, too, is very keen; it takes alarm at the slightest sound, and will not come forth until all is still again. The Mole is not mute as many people imagine, but, especially when alarmed, can utter a loud and shrill squeak.\*

Everyone knows, generally, that the Mole spends most of its time underground; that it forms "runs" or "galleries" on a more or less definite plan; with a chamber or cavity to live in, and another for the reception of its young.

These facts which have been described in detail by the French naturalists, Le Court and Geoffroy St. Hilaire, will be familiar to readers of Bell's 'British Quadrupeds,' in which work will be found (p. 122, 2nd ed.) a plan of the Mole's encampment.

It is not my intention to go over the same ground again in

<sup>\*</sup> Zool. 1865, p. 9708, and 'The Field,' 6th May, 1876.

different words, but rather to touch briefly upon such traits in the life-history of the Mole as have been either overlooked by Bell, or have at least received but inadequate treatment.

To deal first with its distribution in the British Islands, it may be observed that in England it is too well known to render necessary any enumeration of counties in which it may be found; it becomes scarcer, however, as we proceed northward, being considered rare in the north of Scotland; while it is absent from the Western Islands, and unknown also in Ireland.

Writing in 1874, Bell observes (pp. 137, 138), "The Mole is not found in the northern extremity of Scotland, nor in the islands of Orkney and Zetland" (sic). The late Edward Alston, however, in his notes on the 'Fauna of Scotland,' published in 1880, remarks (p. 9), that the Mole has greatly extended its range of late years, and is now well known throughout the mainland to Sutherlandshire and Caithness.

In Sutherland, in 1843, it was very rare in the parish of Durness, and only to be met with on the western side of Loch Hope ('Old Statistical Account,' p. 88.) In Assynt it is now quite plentiful in low-lying ground and valleys where the surface is cultivated. In some of the pastures great numbers of old mole-hills may be seen overgrown with grass, making the whole surface of the fields rough and uneven. In Sutherlandshire this animal is never found at any considerable elevation, a fact which must be attributed to the nature of the soil, or rather to the want of soil on the hill sides, for in other localities the Mole ascends mountains to a great height.\*

The Irish naturalist, Thompson, observed burrows of the Mole at Aberarder, about sixteen miles from Inverness; and the late Thomas Edward, of Banff, asserted that, although it used to be very rare in Banffshire, it has of late years become more numerous there. During the past autumn, while staying in Elginshire (near Carron), I came upon a Mole one day, travelling above ground on the edge of a turnip field, close to a plantation,

<sup>\*</sup> Alston & Harvie Brown, "On the Mammals of Sutherlandshire," Proc. Nat. Hist. Soc. Glasgow, 1875. In the winter of 1863 newly made casts of the Mole were observed on the top of Ingleborough, which is the highest hill but one in Yorkshire. Zool. 1872, p. 3183. Mr. Cordeaux also has noticed the presence of Moles on the highest point of the Lincolnshire North Wolds, Zool. 1868, p. 1186.

and was rather surprised to remark the rapid progress which it was able to make by means of its hind feet. I should have liked to observe it longer, but our setters were "standing" a little way on in the roots, and my observations were cut short by having to walk up to the "point." So the Mole was hastily transferred to my pocket, and was subsequently skinned and preserved for the sake of the northern locality in which it was found. It is now in the Natural History Museum, South Kensington.

In Lanarkshire, in 1867, the Mole was reported to be common in spite of constant persecution (Alston, Zool. 1867, p. 668). Thirty-six years ago it was said to be spreading rapidly in West Argyllshire (New Stat. Acc. Argyll, pp. 380, 439); and in Mull it is reported to have been accidentally introduced in a boat-load of earth from Morven, early in the last ceutury; but it appears to be unknown in the rest of the Scottish islands.

With regard to the distribution of the Mole in Wales I have little or no information. I have noted its occurrence in Monmouthshire, and Carnarvonshire; and Thompson, commenting upon its absence from Ireland, has noticed its existence in Anglesea. He says:—

"It is singular, when entering Scotland and Wales at the nearest ports to Ireland, to see Mole-hills in both those countries almost as soon as we land. They are very numerous along the coast of Ayrshire, just opposite Antrim; and I have remarked them close to the roadside in Anglesea, near to Holyhead, which I mention on account of the western position."

As a rule, perhaps, it may be asserted that the Mole is partial to light soils, which are easily worked, such as old pasture, park lands, warrens, and downs. Mr. Roberts, of Lofthouse, Wakefield, has remarked (Zool. 1872, p. 3183), "they are generally most numerous in light soils which have been manured, but I have seen them in barren lands, on clay soils, and on hills."

Whether the Mole is injurious or not, from an agriculturist's point of view, is a question upon which, probably, there will always be a difference of opinion. Many farmers will tell you that Mole-hills are not only very unsightly, but that they prevent the mowing grass from being properly cut. They apparently

<sup>\*</sup> Nat. Hist. Ireland, vol. iv. p. 4.

overlook the fact, that if the hillocks were knocked about in the spring, and the fine soil of which they are composed were spread over the surface, they would have an excellent and inexpensive top-dressing for their fields. Another recommendation lies in the system of surface drainage, which is effected by the Mole's "runs;" while a third, and perhaps the most important consideration, is the fact that the Mole preys not only upon earthworms, but also upon the larvæ of many coleopterous and dipterous insects, which are very destructive to the roots of grasses and other field crops. On this account, if on no other, it surely deserves protection. The late Mr. Henry Reeks, of Thruxton, near Andover, who was a practical farmer as well as a good naturalist, was strongly in favour of sparing the Moles upon agricultural land.\*

In connection with this part of the subject, it may be of interest to mention here the earliest notice of the Mole which I remember to have met with. It is to be found in the Roll of John Kelyng, Clerk of the works to Dudley, Bishop of Auckland (A.D. 1476—83), wherein the following entry occurs:—
"1480—1.—Paid to Henry Newton for spreading Molehills, 8d.' So it would seem that the practice is of some antiquity. The fact of its preying on worms, too, has long been known. Sylvester, in his translation of Du Bartas, 'Divine Weekes and Workes,' printed in 1605, makes the following allusion to it:—

"Even as the soft blind mine-inventing Moule In velvet robes under the earth doth roule, Refusing light and little ayre receives, And hunting wormes her moving hillock heaves."

The quantity of worms which a Mole will consume in a day must be very considerable. Under date December 12th, W. Thompson writes: "I examined the stomach of a Mole, and found it entirely filled with earthworms. One or two, which were quite perfect, were of the short, thick species, with the yellow band round the body.† These must have been swallowed whole, as an Italian would eat maccaroni.

The late Edward Alston, who kept a Mole for some time in confinement, was quite surprised at its voracity. "The

<sup>\* &#</sup>x27;Zoologist,' 1872, pp. 3181-2. † Nat. Hist. Ireland, vol. iv. p. 4.

quantity of food, he says, which it would eat in one day was astonishing; more than its own weight I am sure. During the first three days it disposed of three or four dozen earthworms, a large frog, a quantity of raw beef, the body of one turkey-pout, and part of a second, and one or two black slugs.\*

In its eager pursuit of earthworms, the Mole has been observed to follow them above ground (Zool. 1883, p. 76), and on wet and dewy evenings, to hunt above ground, like a dog, for worms or slugs (Zool. 1872, p. 3182).

A mole-catcher informed Mr. Jesse, that previous to the setting in of winter, the Mole prepares a sort of basin in a bed of clay, which will hold about a quart, and in this it deposits a quantity of worms, partly mutilated to prevent their escape. On these worms the moles feed during the winter months. The mole-catcher added, that when he found few of these basins in autumn, he knew the winter would be a mild one.†

Another view, however, has been expressed with regard to those "stores," namely, that they are made as provision for the young which are born in March or April.<sup>‡</sup> The observer examined "a round cavity, the sides of which were beaten hard by the Mole, so as to prevent the worms from attempting to pierce their way. Inside this there was nearly a quart of fine worms, quite free from any admixture of soil, each worm apparently tied up in a coil or knot, yet all alive."

There is no direct evidence to show that these were intended as provision for the young, which would probably be suckled by the parent until able to shift for themselves. It is more likely that they were intended for a winter store, to which the Mole can resort when the ground is too hard for tunnelling. It seems doubtful, however, whether the worms could live long in such a condition, for if unable to make their escape they would themselves die for want of nourishment.

According to Bell (p. 183) the period of gestation "is supposed to be about two months or upwards;" but Jesse states that the female goes a month with young, and has never more than six or less than two at a birth. The nest, which is formed by

<sup>\* &#</sup>x27;Zoologist,' 1865, p. 9707.

<sup>†</sup> Jesse's 'Gleanings in Nat. Hist.,' 2nd ser., p. 26.

<sup>† &#</sup>x27;Zoologist,' 1875, p. 4493.

excavating and enlarging the point of intersection of three or four passages, is generally lined with dry grass or dead leaves, sometimes with moss, and even fur.

The young ones begin to run in about five weeks, when they are about three parts grown. They follow their mother for some time.

Contrary to what might be expected from the nature of their haunts, Moles are fond of water. The one which Mr. Alston kept in confinement (ut supra) was supplied with a vessel of water sunk in the gravel, and drank frequently. Sometimes it was seen to run through the water and splash about in it.

More than this, Moles have been observed to swim well and voluntarily. They will not only cross ditches of running water and still pools ('The Field,' 24th June, 1876), but have been found boldly swimming across rivers, such as the Taw in Devonshire (Zool. 1860, p. 7169), and the Greta in Yorkshire ('The Field,' 4th Sept., 1880).

The Mole has other enemies besides man, amongst which may be reckoned Weasels, Owls, and Buzzards.

It was long ago remarked by Gilbert White (in his 40th letter to Pennant), that "Weasels prey on Moles, as appears by their being sometimes caught in Mole-traps." This of itself would not be conclusive, as the Weasels thus caught might have been in pursuit of Field Mice, which often make use of the Moles' runs; but two or three instances have been recorded in which Weasels have been seen carrying dead Moles in their mouths.\* That Owls occasionally prey upon Moles (that is, probably, when they can catch them above ground), is proved by an examination of their "pellets" or "castings." Upon scrutinising 210 pellets rejected by the Tawny Owl, Dr. Altum discovered (besides Rats, Mice, Voles, Shrews and small birds) the remains of forty-eight Moles.

The Common Buzzard is a capital Mole-catcher, and in the vicinity of Mole-hills will take up a position on some tree, and watch until it sees a Mole working near the surface, when it will instantly drop down and seize it. In this way (i.e. by watching and jumping down) Buzzards destroy numbers

<sup>\* &#</sup>x27;The Field,' 9th July, 1881, and 1st May, 1886. Reprinted in 'The Zoologist,' for February last, p. 68.

of rats and other vermin, for which good service they deserve to be protected, instead of being shot and trapped at every opportunity.

The colour of the Mole's fur is subject to some variety, and more frequently than many people seem to suppose.

Looking through the pages of 'The Zoologist' for the last twenty years, we find the following varieties reported from time to time:-Light umber-brown (1865, p. 9645); orange (1877, p. 225; 1878, pp. 22, 128); apricot (1822, p. 351); amber-colour (1884, p. 271); buff (1885, p. 214); cream-colour, 1862, p. 7879; 1865, p. 9645; 1868, p. 1186; 1869, p. 1926; 1871, p. 2782; 1873, p. 8448; 1882, pp. 187, 263); and albino (1867, p. 702; 1868, p. 1096). Three albino Moles were captured last year in Nidderdale ('Naturalist,' 1886, p. 36). Pied varieties are the most uncommon of all. A piebald specimen caught near Falmouth, is mentioned by Mr. Cocks, in his account of the Fauna of that district. White, with red throat, and black and white varieties, are noticed by Turton, in the Appendix to his 'British Fauna,' and by Dillwyn, in his 'Fauna of Swansea.' Perhaps the most curious variety yet reported, was one with a white head, the rest of the body being of the ordinary colour. This singular specimen was caught in October, 1880, upon the Dysart estate, belonging to the Earl of Rosslyn, in Fifeshire.

In the accompanying illustration, Mr. G. E. Lodge, drawing from Nature, has happily caught the attitude of a Mole when brought to bay, with head thrown back and open jaws, "snarling."

# WILD WHITE CATTLE IN SOUTH-WESTERN SCOTLAND. By Robert Service.

The Report on the existing herds of Wild Cattle in the November 'Zoologist,' prompts me to offer the following disjointed remarks on three of the herds of the same breed, formerly existing in South-western Scotland. The latest surviving herd was the one kept in Cally Deer Park, in Kirkcudbrightshire. I have no precise information as to its number,

some of the old people to whom I applied giving it as about a score, while others have put it at nearly twice that figure. John McDiarmid, describing Cally Park ('Sketches from Nature,' 1830, p. 353), speaks of "inclosures peopled with numerous flocks of red and fallow deer, and a race of cattle that is nearly extinct—the wild or ancient kine of Scotland-cream all over, save the nose and ears, which, in each specimen, are as black as jet." McDiarmid, in the 'Dumfries Courier,' for September 25th, 1883, when describing another visit to Cally lagain alludes to these cattle, stating that they were then in a separate walled enclosure. And in reviewing 'Low's Illustrations of the Breeds of the Domestic Animals of the British Islands,' in the same newspaper, on March 4th, 1840, a writer, who, there is not the least doubt, was McDiarmid himself, says:-" Mr. Murray, of Broughton, has also a few in the magnificent grounds around Cally House, which, judging from recollection, correspond exactly with the plate given. Some years ago, when there was a shortness of grass for the other cattle, a few Ayrshires were placed amongst the wild or white breed; and when spring came round it was found that the calves of the latter were variously streaked, and as regards colour had lost most of their distinctive qualities. This phenomenon we chanced to witness, and were powerfully reminded by so unlooked for a circumstance, of the uses to which Jacob, in patriarchal times, turned his peeled wands. Mr. Low himself mentions the dispersal of white cattle at Drumlanrig Castle, and we have often heard that when they became located in the neighbouring country, precisely the same effects were produced." As regards the origin of the Cally herd, Dr. Murray says (' New Statistical Account,' Girthon Parish, 1844, p. 298):-"There is a deer park, nearly a mile square, within less than a mile of Cally, on the south. addition to herds of deer, it contains a few of the ancient Caledonian breed of cattle, procured from the stock of the Duke of Hamilton." Alexander Murray, of Broughton, the proprietor of Cally, died in 1845, and in the following year most of the deer were sold, the wild cattle being disposed of at same time. What became of them I am unaware in the meantime.

The following interesting letter, transcribed from an old file of the 'Dumfries Courier,' refers to the Ardrossan herd. So little can now be gleaned respecting these extinct herds that any information, however fragmentary it may be, is of interest and value:—

"To the Editor of the Dumfries and Galloway Courier.'-Sir,-It will perhaps amuse some of your readers to see a short account of the present state of the wild cattle that used to range the Caledonian forests, and the mode of hunting, or rather of shooting them. Those I allude to are in the parks of Ardrossan, Ayrshire, under the protection of the Earl of Eglinton. The original, I am told, were two quey, and one bull, calves, of two months old, brought from Auchencruive, about twenty years ago, and said to be so vicious that, when tied on the cart, they bit whatever came near them. They seem different from those that were at Drumlanrig, and extirpated for more profitable stock, by William, Duke of Queensberry, about forty years ago, for the Duke's were all horned, with black tips; whilst those at Ardrossan are all without horns, and seem much larger. A cow shot here, some weeks ago, weighed of beef 20 stone 3 lbs. (30 stone 41 lbs. Dumfries weight), and some bulls weighed 32 stones; they are well shaped, broad before, and full in the ham, and would in Galloway be called handsome; they are all white, with brown ears: they herd by themselves, though other black cattle be in the field. When undisturbed I got within a good pistol-shot of them; then they scampered off at a gallop, but not very far, and stood in seemingly a composed state. They drop their calves at various times of the year, which does not betoken them in the wildest state: but here they have abundance of good food at all seasons, which may produce this variation from other wild animals. Some weeks ago there were three bulls, eight cows, and three calves. When the calves drop in winter, or early in spring, they sometimes die from the severity of the weather; and it is observed that during winter they lose flesh more than other cattle in the same fields, with the same advantage of hay. It is thought that the cows have little milk, for they show no udder, and the calves will offer to eat hay at ten days old. Last year three of them died suddenly of an infectious disease thought to be black-leg, though I could not learn that this disorder was at all observed among other cattle in the neighbourhood. Yesterday was fixed for taking two bulls; seven greyhounds were on the ground, but the mode adopted was the old herd, mounted on a hunter, almost his contemporary, pushed into the flock, and separated the intended victim, who galloped off, the herd pursuing, till he got among the gamekeepers, who stood separately at convenient distances; they fired at him as he came nigh; he received three shots in the head without bringing him down; the fourth bullet hit in the centre of his forehead so effectually that I saw him drop before I heard the report, though I was little more than a gunshot from the place. The second bull was still more difficult to overcome, though only two years old; he received six shots at distant intervals, leapt through a hole in a wall, which to appearance was

impracticable, and after all was mastered with considerable difficulty and some danger. The first bull, 4 years old, weighed after being bled, 11 cwt. 24 lbs.; the second, 2 years old, 8 cwt. 8 lbs. The first, beef, 28 stone; tallow, 1 stone 7 lb.; hide. Second, beef, 24 stone; tallow, 1 stone 4 lb.; hide; 24 ounces to the pound. The first, length from nose to tail, 13 feet; girth behind fore legs, 7 ft. 2 inches. Second, length from nose to tail, 11 ft. 8 in.; girth behind forelegs, 6 ft. 6 in.—I am, Sir, yours, &c. (Signed) J. G. CAIRNINSES." (Dated 11th Oct. 1817).

The signature has every appearance of being a pseudonym, and it is almost hopeless to find out the real name of the writer at this distance of time; but at all events we have these minute details, from an eye-witness, of the Ardrossan herd.

It might be inferred from his remark about the Drumlanrig herd, that "Cairninses" had seen it also. Pennant has left us an account ('Tour in Scotland,' ii. p. 124) of the appearance of the Drumlanrig cattle when he saw them about 1770. Gilpin has also put on record some of their peculiarities from personal observation. These two authors differ in the colours they assign to the orbits, ears, and muzzles, Pennant making these parts black, while Gilpin says they were a dark brown, approaching to black. It is believed that this herd was disposed of some time between 1770 and 1780, but where it was sent to remains a mystery. The late Dr. C. Ramage states ('Drumlanrig and the Douglases,' 1876, p. 26):-" There is a tradition that about a hundred years ago the whole stock was sold, and driven off en masse to Chillingham, the seat of the Earl of Tankerville, in Northumberland, via Durisdeer, and the Wald-path, and as they were rather an unruly drove, they were accompanied to the confines of the county by almost all the men and dogs in the surrounding district." Dr. Ramage made enquiries at Chillingham, but was informed by Mr. Jacob Wilson that no record or tradition existed of any such addition to the Chillingham Several versions of this tradition, all substantially the same, exist in Nithsdale to the effect narrated by Dr. Ramage. From the route said to have been taken, the herd was much more likely to have been going to Cadzow rather than Chillingham. There has been a suggestion (Zool. 1878, p. 275) of a "reintroduction" at Hamilton Palace, and if such a surmise is well founded the Drumlanrig cattle may have been taken there after all.

# NOTES ON THE ORNITHOLOGY OF NORTHAMPTONSHIRE AND NEIGHBOURHOOD.

BY THE RIGHT. HON. LORD LILFORD.

I RESUME my notes from my last date, April 15th (Zool. 1887, p. 254). The dates concerning migratory species refer, with a few specified exceptions, to the neighbourhood of Lilford, Oundle.

April 16. Common Sandpiper.

- ,, 17. Wryneck and Spotted Flycatcher.
- ,, 18. Cuckoo.
- ., 19. Swallow.
- ,, 20. House Martin, Nightingale, and Tree Pipit.
- ,, 21. Swift.
- ,, 23. Curlew.
- " 25. Sedge Warbler and Redstart.
- ,, 26. Whitethroat and Lesser Whitethroat.
- ,, 27. Reed Warbler and two Wigeon.
- ,, 28. Ring Ouzel, Landrail, and five large Gulls (sp. ?).
- " 30. Hobby.
- May 1. Turtle Dove (Thrapston).
  - ,, 3. Wood Warbler, and Pied Flycatcher (Yardley Chase).
  - ,, 10. Whimbrel.
  - " 24. Red-backed Shrike.

In a letter dated May 5th, Captain J. A. M. Vipan informed me that a Woodcock flew against the telegraph-wires between Stanground and Peterborough, on the 3rd inst., and was picked up alive by a workman. Mr. W. Tomalin, of Northampton, informed me that he had received an authentic report of the nesting of the Pied Flycatcher at Harlestone last year (1886). This is the first notice that I have received af the nesting of this species in our county. Mr. G. Hunt, writing on May 22nd, told me that his gamekeeper's son, in April, came face to face with a small Owl sitting on a low branch of an oak in Bearshank Wood near Wadenhoe, and that this Owl sat bobbing, bowing, and winking at him within a few feet for some minutes. The youth stated that this bird was of "about the size of a Thrush," and made him laugh, but he carefully kept the occurrence to himself for about a month. This bird was without doubt a specimen of

the Little Owl, Athena noctua, in all probability one of many that have at various times been turned out in several English counties.

Although it perhaps can hardly be considered as coming legitimately under the head of County Ornithology, I think that it is worthy of record that three Nutcrackers, Nucifraga caryocatactes, in the aviary at Lilford, catch and devour many mice that find their way into the compartment allotted to these most amusing birds.

June 25th. Mr. Hunt told me that this morning he saw four Terns (sp.?) hotly pursuing a Heron.

June 27th. A nest of House Sparrows, containing six purely white eggs, was taken from the wall of the kitchen-garden at Lilford, and brought to me.

A nest of the Redstart, from which five young birds took their departure some time ago, was shown to me in the flowergarden at Lilford in a somewhat unusual situation, about three feet from the ground, in a very dense, clipped, Irish yew.

June 30th. A sudden appearance of very large numbers of House Martins—which species had up to this date been remarkably scarce—about the house at Lilford.

One of the gamekeepers reported having seen two Snipes at a pond near Thorpe on the 29th. In this connection I may mention that being anxious to ascertain the fact, of which I have for many years had my suspicions, of the Snipe's nesting near Lilford, I this year offered a high reward to any of our people who could show the eggs in situ; but although I received notice of Snipes being seen at intervals throughout April, and Mr. Hunt reported one as "doing the skimming and soaring business peculiar to the breeding season" on the 29th of that month, and one was seen at our decoy on June 3rd, no nest, nor any sign of one, was discovered, and I am inclined to think that a few Snipes remained through the summer in our neighbourhood without nesting.

July 6th. First report of Green Sandpiper since March last.

July 11th. The falconer reported an "old blue Falcon" as passing within a few yards of him near the house at Lilford. Mr. Hunt, a few days subsequently, told me that he had seen a Falcon, in the plumage above mentioned, on two consecutive days near Aldwinkle, and felt nearly sure that she carried jesses.

July 19th. All beasts and birds are feeling the long drought very severely; one of the gamekeepers assured me that he has this summer lost many Partridge's eggs from the Moles burrowing under the nests and the eggs rolling into the runs of these little beasts, who are hard set for food, and found dead or dying in all directions.

July 27th. A fine old male Hawfinch was caught in a fruitnet in our kitchen-garden; he was so perfect in plumage that I could not make up my mind to cage him, and, careless of green peas and raspberries, set him at liberty. These birds, though now fully established as breeders with us, do not appear to have increased much in number during the last ten or twelve years.

July 28th. The falconer, whom I despatched on an exploring expedition this morning, brought down three young Hobbies from an old Carrion Crow's nest in a tall oak, at a very short distance from that in which he found the nest on the same day of last year (cf. Zool. 1886, pp. 468-9).

July 30th. As I sat fishing this morning in a boat on the Nene, at a short distance below Lilford, I noticed a bird coming rapidly up the course of the river towards me at no great height; it approached "straight on end" till within ten yards of us, when it turned off, and showed me that it was a Grebe—neither Dabchick nor Great Crested Grebe. This bird flew round us twice, once within easy gunshot, and was without doubt either an Eared, Podiceps nigricollis, or a Sclavonian Grebe, P. auritus (Linn.). I am inclined to consider that it belonged to the latter species, from its size and the pure white of the whole of the under plumage. The Sclavonian Grebe is not very rare in our district in winter, but I have only one, somewhat doubtful, record of the Eared Grebe in Northamptonshire.

August 2nd. Miss M. Stopford brought to me four eggs taken from a Robin's nest at Tichmarsh this year, one of which eggs was of the usual type of coloration; another unusually scanty of markings, which were exceptionally pale in colour; another pure white; and the fourth white with scanty spots of dark brown.

August 5th. We noticed a large raptorial bird soaring at a great height over the meadows near Lilford. I had no glasses, and cannot be quite positive as to species, but have very little hesitation in pronouncing this to have been an Osprey.

August 20th. First report of Grey Wagtail—very exceptionally early for our neighbourhood.

August 26th. About forty large Gulls passing high to S.W.

August 28th. Mr. Hunt reports a string of eighty to one hundred Curlews—or more probably Whimbrels—passing over to S.W. high in air.

September 8th. Professor A. Newton reported having seen a Swift near Thorpe to-day.

Sept. 9th. Mr. Hunt, whilst Partridge shooting on Pilton to-day, fired a long shot at a passing flock of some twelve or fifteen small birds, and brought down one of them, which proved to be a young male of the Pigmy Curlew, *Tringa subarquata*. This is the first appearance of this species in our neighbourhood that has come to my knowledge. Four Teal at Aviary Pond.

Sept. 15th. A Quail was flushed in the same field on Wadenhoe as that recorded in 'The Zoologist' for 1886 (p. 470). These are the only two occurrences of this species (formerly not uncommon) in our neighbourhood that have come to my knowledge for several years past.

Sept. 20th. The first Wigeon of the season seen on our decoy; two on 26th instant.

October 1st. The first Grey Crow of the season reported.

Oct. 2nd. Mr. Hunt reported the first Merlin of the season, but on enquiry from the falconer he declared that he had seen two or three of these little hawks, whilst exercising the young Hobbies during the last ten days, without taking note of first appearance.

Oct. 7th. First report of Golden Plovers near Aldwinkle.

Oct. 10th. First Woodcock of season, seen by Mr. Hunt in his garden at Wadenhoe. With the exception of last year, when I received authentic reports of Woodcocks seen in September, and in all probability bred in the neighbourhood, the present is the earliest record that I can find in journals and Lilford game-books.

Oct. 11th. Two large Gulls seen going southwards. Very cold northerly wind, with heavy driving rain-squalls.

Oct. 12th. A Gull, supposed to be *Larus canus*, found by our shooting party on Tichmarsh, apparently very much exhausted, and only capable of flying short distances.

Oct. 14th. A Water Rail was shot by one of the gamekeepers near Thrapston; two others picked up dead on the railway, and evidently killed by telegraph-wires, were brought to me on Sept. 21st and 28th respectively. This species is by no means rare with us in the autumn and winter, and I only place these occurrences on record, because it appears to me that two at least of these three individuals were evidently on migration. As in the case of the Snipes above mentioned, I this year offered a reward to any one who could find a nest of the Water Rail with eggs in the neighbourhood of Lilford; but in spite of very diligent and intelligent research, in many localities admirably suited to the breeding habits of this species, no nest was found, although an old bird was observed in June.

Oct. 16th. First Fieldfare of season, reported by Mr. Hunt. First report this season of Bramblings; two seen near Achurch.

I may conclude with a few general remarks upon birds about Lilford since our return thither from Bournemouth on 14th June last. I had heard many reports before that date of the scarcity of the *Hirundines* in many parts of England, but there were certainly quite an average number of Swallows about the house from June to October; House Martins, however, were very scarce till the end of June, as above mentioned—since that time rather more abundant than usual. Sand Martins, never very abundant in the immediate neighbourhood of Lilford, appeared sparingly along the river in July.

The Pied Woodpecker was seen and heard during this summer very much more frequently than in any previous year within my recollection. A nest full of nearly fledged young was found, within less than a quarter of a mile from the house, in the third week of June, and another brood was hatched out in our pleasure-grounds about a fortnight afterwards.

Most of our common summer visitors were in about their usual numbers; Spotted Flycatchers and Redstarts perhaps more abundant than usual. We had a wonderful number of Partridges, and our returns of killed during September and October are higher by nearly four hundred brace than in any season as yet recorded. Kestrels and Sparrowhawks were remarkably scarce with us till late in August, when both species appeared in force. I saw a Hobby on two or three occasions near the house in July and August, and heard of several more

in the first fortnight of September. The Green Sandpiper was very unusually scarce with us. The long-continued drought drove all our Blackbirds and Song Thrushes to the spring-heads and river-side, and our snails and slugs had a very bad time. My personal observations are, unhappily, very limited, but our shooting parties reported vast numbers of Sky Larks on the stubbles,—or fields in which stubble ought to be,—and crowds of Finches about our fences.

# ON THE OCCURRENCE IN ENGLAND OF THE CASPIAN TERN.

By J. H. GURNEY, JUN.

As some uncertainty enshrouds the few recorded examples of Sterna caspia, Pallas, which have been killed in England, I send the following corrected version of the list of Norfolk specimens which appeared in the 'Transactions of the Norfolk and Norwich Naturalists' Society.' Some of the information has been gleaned from the correspondence of the late T. C. Heysham, brought to light by the Rev. H. A. Macpherson (vide antea, p. 386), a correspondence full of interesting matter, which has now most fortunately fallen into good hands:—

One, Yarmouth, or Breydon Broad, October 4th, 1825. Mag. Nat. Hist. iv. p. 117; Babington's 'Birds of Suffolk,' p. 247.

One, Yarmouth, 1830. 'The Zoologist,' 1856, p. 5035. In the Norwich Museum.

One, Cromer, 1836. A letter to T. C, Heysham, dated Nov. 21st, 1836, lent by the Rev. H. A. Macpherson.

One, Yarmouth, April 16th, 1839. Received in the flesh by my father.

One, Yarmouth, female, June 2nd, 1849. Is, or was, in the possession of Capt. Barber.

One, Yarmouth, male, June, 1850. In the Bury Museum.

One, Yarmouth, July 16th, 1850. My father was informed that others were seen at the same time.

One, Yarmouth, male, August 11th, 1851. Preserved at Northrepps.

One, Yarmouth, male, May 2nd, 1862. Stevenson, Zool.

1862, p. 8093.

This list somewhat augments those previously published (l. c. iii. 565; iv. 409), and the particulars are now as correct as it is possible to obtain after the lapse of time which has occurred.

In addition to the occurrences above noted for Norfolk, there are nine more in other parts of England, and one doubtful one. In Scotland and Ireland Sterna caspia has not yet been recognised. Its appearance sooner or later in Cornwall, or the Scilly Isles, may be safely predicted, Terns from the Mediterranean being as likely to visit the south coast of England as those from Sylt do the east coast.

One, Aldeburgh, Suffolk, prior to 1835. Jenyns, Brit. Vert. Animals, p. 265.

One, Lydd, Kent, prior to 1845. E. P. Thompson, 'Notebook of a Naturalist,' p. 265.

Two, Weymouth, autumn of 1848, fide W. Thompson. Mansell-Pleydell's 'Ornithology of Dorset' (1879), p. 52. Mr. Mansell-Pleydell writes that these birds are no longer in existence, having perished with the rest of Mr. Thompson's collection, though in good condition at the time of his death.

One, Caythorpe, Lincolnshire, May 17th, 1853. 'Zoologist,' 1853, p. 3946. This locality is twenty miles from the sea.

One, Christchurch harbour, about 1853. Wise, 'New Forest,' p. 317.

One, Wareham, Dorsetshire, July, 1872. Mansell-Pleydell, 'Ornithology of Dorset' (1879), p. 52.

[One, Birmingham, April 28th, 1874. 'Zoologist,' p. 4036. Doubtful, as it was not shot, and the observer never got within 250 yards.]

One, Filey, Yorks., September, 1874. R. A. Willis, 'The Field,' Nov. 15th, 1879. Preserved by Baker, of Cambridge, and identified by Prof. Newton.

One, Farne Islands, June 6th, 1880. Seen by Mr. E. Bidwell, but not obtained. The red beak of this Tern is conspicuous a long way off, and in Egypt our party easily identified it by this character alone.

We have thus altogether eighteen reported occurrences of this fine Tern in the British Isles, but thirteen years have elapsed since the last specimen was obtained.

# NESTING HABITS OF THE HUMMING-BIRD (TROCHILUS COLUBRIS).

By PROF. WILLIAM MACFARLAND.\*

In his enchanting little volume entitled 'Wake Robin,' John Burroughs says:—" The woods hold not such another gem as the nest of the Humming-bird (Trochilus colubris). The finding of one is an event to date from. It is the next best thing to finding an Eagle's nest. I have met with but two, both by chance." Having found three nests, one more than Mr. Burroughs, it is hoped I may be pardoned for feeling somewhat elated over my good luck.

By the side of my house stand two large maples, through the branches of which I noticed a Humming-bird come and go several times. Following her closely, I discovered the nest while she was in the act of feeding the young. This was August 22nd, 1883. The position of the nest was on a pendent limb about fifteen feet above the ground. From an upper window it could be looked into with an opera-glass, and all the details made out. The young were well pin-feathered, but the beaks were quite short. It being my vacation, I spent much time near the nest, where I could frequently see the female. but the male as yet eluded me entirely. The weather was fair until August 26th, when just before noon a cold easterly storm set in, accompanied by high wind. During this storm, which lasted until midnight, the young were entirely unprotected. They lay close in the nest, and seemed lifeless, while the long slender limb, on the lower end of which the nest was placed, swayed several feet in various directions, seemingly making it impossible for anything to remain in the nest.

The next morning the sun shone brightly, and I was gratified to find that the birds had not only not perished, as seemed to be their destiny, but were animated and vigorous. By the last day of August they were fledged, and the beaks were quite mature. They seemed very active, and were now too large for the nest, constantly crowding each other over the edge, on which they would sit or stand a part of the time and exercise themselves by

From 'The Journal of the Trenton [N. J.] Nat. Hist. Society, 1887, pp. 55-58.

rapidly vibrating their wings, and by probing the nest with their long beaks, protruding the tongue beyond the mandibles. (This observation was made with a small telescope, through which they appeared larger than English sparrows at arm's length).

On Sept. 3rd one ventured to a limb a few feet away, where it remained until next day, when the other joined it. They made short flights from limb to limb for a few days, when I lost their whereabouts, and did not see them again.

About July 20th, 1884, another female was frequently seen, and was soon detected at nest-building. The site was near the former one, but several feet higher, and less favourably situated for observation.

The outside of this nest was complete when first seen, but the bird worked two days longer, carrying tufts of a white material, and each time alighted with them in the nest. My only position for observation being beneath the tree, I could not see her operations. I soon missed her, and the nest seemed deserted. About a month later, being fully convinced that it was empty, I decided to take it down. Mounting an improvised support, the limb was drawn down, and, by standing on tip-toe, I cut it off just above the nest. To my great surprise it held two young birds but a few days old. They resembled in appearance short downy caterpillars, and were about the size of a honey-bee. The nest was placed near its original position, and the old bird continued her attention. It was not well secured, and soon turned, dropping its occupants to the ground. I readily found one by following the bird to where she fed it, but the other was lost. With some difficulty the claws of the former were loosened from the grass, to which it clung with surprising tenacity, and it was again placed in the nest. This time, however, the nest was not elevated to its former position, but placed on a fir near by, and so low that it could be handled. The mother found it at once, and made no objection to the new situation.

The young bird was soon covered with green glossy feathers; even the ruby throat was well defined and faintly showed its metallic lustre, thus giving positive evidence of the sex. It was very tame, and was well contented to have its back stroked. On approaching the nest it would greet me with a musical, plaintive, piping note, and beg for food in the most appealing manner.

Many visitors saw this unique nest with its superbly-embellished occupant, but not one would leave it until his vocabulary of best adjectives was exhausted. Like those of the previous year, this little fellow, too, suddenly outgrew his home, and sat on its edge, preening his feathers, vibrating his wings, and looking excitedly at the moving leaves and passing birds. He left the nest Sept. 7th.

Early in July, 1885, a third nest was found in process of building in the same tree, but too high for observation except through a glass.

I will trouble you with but one item concerning this nest. A male bird came once and sat near, when the female immediately joined him, remained a minute, and returned to the nest, when the male flew away. During my presence this is the only time that a male bird approached either of the three nests, or was seen at all in the vicinity.

The nests were procured in fair condition, and are alike in construction. The outer covering is of lichens, used only for concealment, since they are but attached to the nest proper by a material resembling cobweb, but less elastic. The real texture of these nests, as identified by undoubted authority, consists of the cottony tufts of willow and dandelion seeds mainly, the willow coma predominating.

Many persons could not see the nests when a few feet away, even though the exact locations were pointed out; hence its perfect concealment may be readily imagined. The diameter of the nest is one inch, and its weight fifteen grains.

## NOTES AND QUERIES.

The use of the word "feral."—I desire to protest against the use of a word which, as a scientific adjective, is becoming settled with a sense it has no right whatever to bear, if classical correctness be worth taking into account. This is the word "feral," as signifying that the creature to which it is applied has either escaped from domestic conditions, or represents the wild stock of a domesticated animal. I am the more moved to call attention to it at the present time, because it has just been given a place in the "Ornithologist's Compendium," or Glossary, in Mr. Ridgway's 'Nomenclature of Colours,' &c. A reference to any Latin dictionary will

assure the referrer that "feral" has nothing to do with ferus, as Mr. Ridgway supposes. The adjective derived from ferus is ferinus (Virg. Æn. i. 215; xi. 571), and the English form, naturally, "ferine." — H. H. SLATER (Irchester Vicarage, Wellingborough).

#### MAMMALIA.

The Bank Vole in Sussex,—Observing the scant notice of the occurrence of the Bank Vole in this county (p. 366), I venture to offer the following observations. I am not sure in what year it was, but shortly after this little animal had been described by Yarrell as a new British species under the name of Arvicola riparia, I obtained several specimens at Highlands, in the parish of Framfield, where, in an orchard, it was rather plentiful. This was in East Sussex. In West Sussex it is by no means uncommon in my own garden, at Cowfold, near Horsham, where I have often watched it playing around me, sometimes two or three being together; and on one occasion, whilst sitting with a book by the side of a pond near my house, a remarkably red one was for some time sitting on my foot, eating a frond of wood-anemone, part of which it carried into its hole, which I then saw was close at hand. The Bank Vole is very partial to maize, to obtain which from a small trough for feeding wildfowl it does not hesitate to take the water and to dive for the grains; in fact, it seems as much at home in that element as its congener the Water Vole, or the Brown Rat. I have frequently seen it swimming about near the banks of the pond, without any apparent object beyond its own amusement. - WM. Borrer (Cowfold, Sussex).

The Bank Vole in Durham.—I can in some degree supplement the Editor's interesting paper on Arvicola glareolus, so far as one county is concerned. When at school at Durham we used to capture most of the wild beasts and birds of the neighbourhood, subject, to a certain extent, to the prejudices of the local gamekeepers. We used to keep domesticated colonies of the smaller rodents in large wooden boxes, with a four-inch sod on the bottoms, in which they burrowed, bred, and were as happy as circumstances permitted. We caught several Bank Voles at different times ("red mice," as we used to call them till we found out the proper name), but they were decidedly rare as compared with the Short-tailed Vole, and I do not remember that we caught more than half-a-dozen altogether. They were caught with cheese, our general bait, and always in hedge-banks. In captivity we could always recognise their voices, which were much more deep-toned than those of their relatives. As to food, we used to give them anything in the vegetable way that came handy, besides bread and milk. We noticed that they had a great fondness for acorns and beech-nuts; they would leave anything for the latter; hazel-nuts they could certainly master without assistance. They were much more amiable than the other species;

if a finger was introduced into a burrow occupied by a Field Vole or Longtailed Field Mouse it got bitten without hesitation. Shrew Mice never, and Bank Voles seldom, bit, but would scratch when pressed. When outside their burrows none of the species ever tried to bite, and all seemed perfectly friendly with one another. I have caught more than one example of this species in South Northumberland also; but I always found it comparatively rare there.—H. H. Slater (Irchester Vicarage, Wellingborough).

The Bank Vole in Northamptonshire.—The editorial hint as to the desirability of information regarding the Bank Vole, Arvicola glareolus (Schreber) set us at work trapping about Lilford; and I am glad to inform you that the result of our exertions goes to prove, quantum valeat, that in our district of Northamptonshire the above-named species is about as common as the Short-tailed, A. agrestis (Linn.); in fact both species are very abundant, the former principally frequenting old stone-work, and the cover of shrubs and trees, whilst the latter swarms in our open meadows and pastures.—Lilford (Bournemouth, Nov. 12th).

Range of the Dormouse in England.—In 'The Zoologist' for 1885 (p. 204), Mr. G. T. Rope referred to a note in which I mentioned the occurrence of the Dormouse in the beech woods on the Chiltern Hills, in Bucks. Since then I have ascertained that these little animals are far more numerous in the nut hedges. Towards the end of October last, a man in this town had a consignment of five dozen, which were caught in the nut rows on Buckland Common, on the borders of this county adjoining Hertfordshire. I purchased a couple from him, the smallest of which had a white tip to its tail.—F. HAYWARD PARROTT (Walton House, Aylesbury).

#### BIRDS.

Swans with white Cygnets.—In the summer of 1885 a pair of tame Swans, belonging to St. John's College in this University, brought off a brood of cygnets, whereof one, when I saw it, a few days after it was hatched, had the down with which it was covered white, slightly tinged with buff. Its feet were pale, and its bill flesh-coloured. The rest of the brood (four in number, if I remember right) presented the ordinary appearance. I took some interest in this white bird, and, at my request, its life was spared when its brethren met their fate. Its first feathers were white with a decidedly buff tinge, but this gradually disappeared, and in the following spring they were of a pure white all over, while the bill was of a fine orange-pink, and the legs were of a dusky flesh-colour. Hitherto this cygnet had remained with its parents, but as they began to ill treat it, it was removed, and, I believe, given away. Just the same thing happened in the summer of 1886; one bird of the brood was white, while the others

were sooty. This last summer of 1887 two white cygnets were hatched by the same pair of Swans, the other three in the brood being of the usual colour, and I had the pleasure a few days since of showing all five, together with their parents, to Mr. A. D. Bartlett, who told me that he had never known or heard of a similar instance. All these four white birds, I may add, have been perceptibly smaller than their dusky brethren. The feet of the old male Swan are not so fully black as usual, but otherwise there is no variation to be noticed in his appearance or in that of his mate. It will be observed that these white cygnets correspond very closely with those of the so-called "Polish Swan" (see the excellent papers of Mr. Stevenson and Mr. Southwell—the latter in Trans. Norf. and Norw. Nat. Soc. ii. pp. 258— 260), but I do not now write to express any opinion on that as a supposed species; I may, however, remark that Dr. Plot, in his 'Natural History of Staffordshire' (pp. 228, 229), just about 200 years ago, wrote of certain Swans on the Trent near Rugeley, whose legs were of a blushy red, like those of tame Geese, and also of cygnets white as snow. - Alfred Newton (Magdalene College, Cambridge, November 1, 1887).

Knot on the West Coast of Scotland.—Replying to the enquiry of Mr. A. H. Macpherson (p. 428), I may state that the Knot occurs far from uncommonly in the West of Scotland, though not nearly so abundantly as on the East Coast.—J. A. Harvie Brown (Dunipace House, Larbert, N. B.).

Supposed breeding of the Great Northern Diver in the Færoe Islands.—In 'The Zoologist' for September (p. 351) Colonel Feilden alludes to two eggs of the Great Northern Diver from the Færoes (1880) which were sold by auction at Stevens's on April 25th, 1887, and which were purchased by me. I thought some of your readers might have been able to give some information on the subject; but as no mention has been made in either October or November numbers, I should be extremely obliged if I could obtain some particulars respecting these two eggs through your valuable Journal, and hope these lines may catch the eye of the collector who took them.—G. T. Phillips (Wokingham, Berks).

Nesting of Montagu's Harrier in Dorsetshire.—At Winterbourne Kingston, on the 24th June last, whilst a carter in the employ of Mr. E. Besent, was cutting a field of clover with a mowing-machine, he disturbed a large hawk from her nest, which was immediately joined by another equal in size, but of lighter plumage. The sudden apparition of so large a bird frightened the horse, but before the machine reached the nest, the carter descried it. It was on the bare ground, about the size of a man's hat, composed of pieces of straw (grass?) and feathers, and contained four eggs, which were bluish white, with a few indistinct red spots and streaks, and slightly incubated. The pair frequented the field and neighbourhood for some days afterwards. Three were seen in a field of sanfoin a quarter of

a mile from the clover-field before and after the 24th, and during the course of cutting it, in the month of July, the mowing-machine disturbed "a large brown hawk." No nest was found, and Mr. Besent thinks there was one, but destroyed by the machine. Some time afterwards I saw two Harriers on the wing leisurely beating a stubble-field within half a mile of Kingston; they were either birds of the year or females. The neighbouring keepers tell me they have seen the birds during the past summer, which up to the present moment have eluded both gun and trap. The grass in the neighbourhood of the nest was much damaged and trodden down.—J. C. Mansel-Pleydell (Whatcombe, Blandford).

[On comparing one of the eggs above mentioned with a series in the Natural History Museum it was evident that it belonged to Montagu's Harrier, Circus cineraceus.—Ed.]

Breeding of the Tufted Duck in Aberdeenshire.-With reference to Mr. Borrer's communication on this subject (p. 427), I may mention that on the 25th June last I found a Tufted Duck's nest, containing seven fresh eggs, on the margin of the Loch of Park, near Aberdeen. It was placed among Carices in a rather marshy spot, and most likely would not have been detected had not the duck flown off as I passed. I took one egg for the sake of the locality, but otherwise left the nest undisturbed, and was glad to see the bird on it again an hour afterwards. The duck, on leaving the nest joined the drake, who was swimming in a piece of open water close by. Several other Tufted Ducks were in view at the same time. Mr. G. Sim, of Aberdeen, to whom I communicated the above facts, informed me that, so far as he was aware, the nest of this species had not previously been discovered in the county. In certain other parts of Scotland with which I am better acquainted it has bred freely for a number of years past, and I have found many nests. - Wm. Evans (18, Morningside Park, Edinburgh).

[On this subject Mr. Harvie Brown writes:—"Of the breeding of the Tufted Duck in Aberdeenshire, since Mr. Jex Long's record (Proc. N. H. Soc. Glasgow, 1880, iv. p. 103), it has become abundant as a breeding species, and also much more widely distributed. I could name many localities in Scotland where it is now quite common."—Ed.]

Breeding of the Tufted Duck.—Mr. Borrer's note upon the breeding of the Tufted Duck in Aberdeenshire (p. 427) is incomplete, as he was unluckily rather late in his visit to our mutual friend Mr. Hamilton, of Skene. Had he looked for the ducks early in July, as I did, he would have enjoyed the sight of several fine broods of Tufted ducklings diving actively through the duckweed. At Skene the majority of broods hatch out at the end of June and early in July; and, from what Mr. Whitaker told me, when introducing me to the Rainworth colony last spring, I should imagine that in Nottinghamshire the birds hatch out about the same time

as those in Aberdeenshire. In West Norfolk the Tufted Duck must be an earlier breeder, as the kindness of Lord Walsingham enabled me in May last to examine many nests containing the full complement of eggs, which the keepers stated to be incubated on May 29th. On that date the young of the Gadwall, Shoveller, Mallard, Teal, Pochard, and Wigeon were all hatched out, but the Tufted Ducks were uniformly sitting hard. On the waters of the Lewes Corporation, where the Tufted Duck (pinioned) has bred for many years, occasionally interbreeding also with the Pochard, the season of 1887 brought out forty young Tufted Ducks; but, owing to defective management, only three of the number grew to maturity.—H. A. Macpherson (3, Kensington Gardens Square).

Puffin and Whimbrel in Somersetshire.—I was staying with a friend at South Petherton in the middle of October, and the week before he had a Puffin, Fratercula arctica, brought to him, which had been picked up in a field close to the village, in an exhausted state; he tried to keep it alive, so as to send it to Weymouth the following day, but it died during the night. I presume it was driven inland by the late storm. Is it not an uncommon occurrence, as South Petherton lies between Ilminster and Crewkerne, and some twenty-five to thirty miles from the sea, in the direction from which the storm came. We have during the breeding season large flocks of Whimbrel, Numenius phaopus, on the moors near here. My supposition is that these birds do not breed until the second year, and that they are last year's birds. Am I right in this?—H. St. B. Goldsmith (Bridgewater).

[We are surprised to hear of the occurrence of the Whimbrel in Somersetshire during the breeding season, having hitherto regarded it as a passing visitor in spring and autumn. Is our correspondent sure that this bird is found on the moors referred to in June? It breeds late, and is commonly to be found on the south and east coasts of England during the first and second weeks of May.—Ed.]

Lesser Redpoll and Hawfinch nesting in Berkshire.—On June 10th last I took a nest containing three eggs of the Lesser Redpoll, Linota rufescens, near Wokingham; and on May 20th a nest with five eggs of the Hawfinch, Coccothraustes vulgaris. As both these species are somewhat local in regard to their breeding haunts, this note may be worth publishing.—G. T. Phillips (Wokingham, Berks).

Glaucous and Iceland Gulls on the Essex Coast.—Through the kindness of my friend Mr. Kerry, of Harwich, I have been able to add to my collection specimens of these two Gulls, both immature; as near as I can judge, the Glaucous is in the second year, and the Iceland in the third year's plumage. The first named was shot by Mr. Kerry in Harwich Harbour on Dec. 25th, 1885, and the Iceland Gull was shot by a smacksman in the Colne, near Brightlingsea, on Jan. 1st, 1887.—C. A. MARRIOTT.

Uncommon Birds near Scarborough.—Early in September several Manx Shearwaters, Puffinus anglorum, were obtained near Filey; a Glaucous Gull, Larus glaucus, in nearly mature winter plumage, having acquired the light grey mantle, but retaining some of the light ash-brown feathers on the breast, was shot on Scalby Ness; other specimens in immature plumage have occurred along the coast, and are not uncommon in some winters, though I have not known a mature example being obtained for some years. The person who shot the Glaucous Gull also obtained a Little Stint, Tringa minuta, about the end of August or beginning of September, near Scalby Ness. This species is rare in this neighbourhood, and the specimen referred to is the fourth that has come to my notice within the last twenty-five years, and Mr. A. Roberts, who was in business as a bird-preserver here for over thirty years, told me he never had one during that time through his hands. On October 3rd I shot an immature Velvet Scoter, Œdemia fusca, in Bridlington Bay; all the upper parts of the plumage, with the exception of the bar on the wing and a white patch before and behind the eye, were quite black; under parts dark grey; feet, legs, and bill brownish black. A few days ago I was much amused by observing the extreme fearlessness of a Purple Sandpiper, Tringa maritima. I have frequently walked to within half-a-dozen yards of two or three, but on the day in question I tried to take one with my hat by creeping on the sea-weed, and so nearly succeeded that the bird did not take wing until my hand was within half-a-yard of it, when it flew out to sea, but returned again and settled on a rock at a few yards distance.—R. P. HARPER (2, Royal Crescent, Scarborough).

Unusual site for Swallows' Nest.—I have just seen a Swallow's nest in a very unusual position. It is placed on the upper side of a transverse beam running across the porch of a village post-office, and is cup-shaped, like that in the woodcut of the Swallow's nest in a sycamore tree in Yarrell's 'British Birds.' The nest is very conspicuous, standing about seven feet from the ground, and about midway along the beam. The visits of the public to the post-office must greatly have interfered with the domestic arrangements of the old birds. The postmaster tells me, however, that the young were brought up and sent safely into the world. But the nest is a last year's nest, and, as the old birds do not seem to have attempted to return this year, it may be assumed that the discomforts of their first experience were enough for them. The nest may be seen in sitû at the post-office of Dovers Green, near Reigate.—E. P. LARKEN (Gatton Tower, Reigate).

Late Stay of Martins.—On the 15th of November, whilst driving past Kearnsey Abbey. I and my companion counted five Martins flying about the first reservoir between that place and Dover. The striking feature was

that the banks of the dam were powdered white with snow, and thin pancake ice had formed close to the edges. Waterhens were swimming, and dabchicks diving amongst the thin ice, and above, but skimming close to the water, was this party of Martins. It was an exceptionally cold and wintry day for the time of year, and I quote an extract from 'The Standard' of Nov. 16th:—"A Dover correspondent telegraphed last night: Wintry weather has set in on the coast unusually early, a somewhat heavy snowstorm having been experienced in this district to-day. Snow commenced falling last night, and fell for several hours, continuing at intervals throughout the day. It is several inches deep on the hills, and in some places there is reported to be as much as a foot. The wind is bitterly cold, and the sky is overcast and threatening. The wind blew very heavily last night from the north."—H. W. Feilden (Dover).

Iceland Gull in the Moy Estuary.—On November 9th, while passing through one of my fields, I observed an Iceland Gull, in company with a Herring Gull and some Common and Black-headed Gulls, feeding on the worms turned up by the plough. It was very tame and unsuspicious, as I have generally remarked Iceland Gulls to be, very unlike the Glaucous, which is almost as wary as the Great Black-backed species. It frequented the field for some days, and, as I wanted it for comparison, I shot it. It was in very poor condition, and apparently in the first year's plumage, for it is very dark-coloured underneath, similar to a specimen I shot on Dec. 29th, 1877, near the village of Enniscrone.—Robert Warren (Moy View, Ballina, Co. Mayo).

Spotted Redshank in the Moy Estuary.—Early in October I heard the call of a Spotted Redshank, Totanus fuscus, and yesterday (Nov. 15th), when out in my punt, I passed quite close to one feeding on the sands, but lost my chance of obtaining the bird through mistaking it for the Common Redshank, not recognising it until it got off, its dark wings and peculiar call then telling what it was. It is very difficult to distinguish this bird from the Common Redshank when feeding or resting on the shore, unless one chances to observe the dark line from the bill to the eye, or is struck by the greater length of the legs. When disturbed it seldom gives the shooter a second chance by realighting, like the Common Redshank, some distance off, but flies right away out of the locality.—Robert Warren (Moy View, Ballina).

ERRATA.—Page 422, line 11, for conclusive read more conclusive; line 29, for durchans read durchaus; line 34, for Myvator read Myvatn; page 423, lines 16, 17, for I am unable to say, but should be glad to learn as to the Lagopus collected in the Kurile Islands; examination, &c., read I am unable to say, but should be glad to learn; as to the Lagopus collected in the Kurile Islands, examination, &c.

### SCIENTIFIC SOCIETIES.

LINNEAN SOCIETY OF LONDON.

November 3, 1887.—WM. CARRUTHERS, F.R.S., President, in the chair. Mr. J. H. Hart, of Trinidad, was elected a Fellow of the Society.

The President called attention to the death-roll since the June meeting, specially deploring the loss of Prof. Julius von Haast, N.Z., Dr. Spencer Baird, U.S., and Prof. Caspary, of Königsberg.

Mr. H. N. Ridley gave an account of his Natural History collections in Fernando Noronha. The group of islands in question is in the S. Atlantic, 194 miles east of Cape San Roque. The largest is about five miles long, and two miles across at broadest part. Although chiefly basaltic, phonolite rocks crop up here and there. The cliffs are steep, but otherwise the soil is fertile; there is an absence of sandy bays on the south side. Generally speaking the specific animal forms differ on the opposite sides of the main island. The indigenous fauna and flora seem to have been much modified, and in some cases extirpated by human agency. Of mammals the Cat is reported to have become feral, and Rats and Mice swarm; Cetacea occasionally frequent the coast. The land birds comprise a species of Dove, a Tyrant, and a Greenlet (Virio). Sea-birds are numerous, but by no means so abundant as they were formerly, when the island was first discovered. Among the reptiles were found a species of Amphisbœna, a Skink (Euprepes punctatus) and a Gecko: Turtles are also frequently seen in the bays. Batrachians and fresh-water fish are entirely absent. One butterfly, a well known Brazilian species, was plentiful; but insects, though abundant, were poor in number of species. Two species of Trochus called for remark, as having a southern distribution; the remainder of the marine shells, and indeed most of the marine fauna and flora, show affinities to that of the West Indies.

Afterwards there was shown a Wasp's nest, which had been constructed on a roof-board at Dovercourt.

A report was read on the Pennatulida of the Mergui Archipelago, by Prof. A. Milnes Marshall and Dr. J. Herbert Fowler. The collections made by Dr. John Anderson were from shallow water and mud-flats exposed to spring tides. Of ten species two are new, and there are several varieties not hitherto recorded.—J. Murie.

### Zoological Society of London.

November 14, 1887.—Prof. W. H. Flower, LL.D., F.R.S., President, in the chair.

The Secretary read a report on the additions that had been made to the Society's menageric from June to October, and called attention to certain

interesting accessions which had been received during that period. Amongst these were specially noted a red and white flying Squirrel (*Pteromys alborufus*), from the province of Szechuen, in the interior of China, presented by Mr. Percy Montgomery, of Ichang, China; and an Urva ichneumon (*Herpestes urva*) and a young male gorilla (*Anthropopithecus gorilla*), being the first gorilla acquired by the Society, obtained by purchase.

A communication was read from Herr W. v. Nathusius, of Königsborn, on a microscopic Acarus (Symbiotes equi), a parasite of the horse, causing what is called "greasy-foot," of which he sent specimens for exhibition. The same Acarus was regarded by the author as being the cause of skin diseases in other domestic animals.

The Secretary read a letter addressed to him by Dr. Emin Pacha, dated Wadelai, April 15th, 1887, referring to some communications on Natural History which he was preparing for the Society.

A letter, enclosing photographs, was read from Surgeon-General George Bidie, referring to a case of the breeding of the Elephant in captivity. The usually received date of twenty-one months as the period of gestation was confirmed.

Prof. F. J. Bell made some observations on the "British Marine Area," as proposed to be defined by the Committee of the British Association, and opposed the idea of omitting the Channel Islands therefrom.

Prof. A. Newton exhibited (on behalf of Mr. W. Eagle Clarke) a specimen of Bulwer's Petrel (*Bulweria columbina*), believed to have been picked up dead in Yorkshire.

Mr. H. E. Dresser exhibited (on behalf of Lord Lilford) specimens of a new species of Titmouse, allied to the Marsh Tit (*Parus ater*), obtained by Dr. Guillemard in Cyprus, which he proposed to designate *Parus guillemardi*.

Mr. Boulenger exhibited a living specimen of a rare African batrachian (Xenopus lavis), which had been sent to him by Mr. Leslie, of Port Elizabeth, and also gave a description of a new species of Hyla from Port Hamilton, Corea, living in the Society's gardens, which he proposed to name Hyla stepheni, after its discoverer.

The reptiles, shells, Lepidoptera, and mammals collected by Mr. H. H. Johnston at the Cameroons and the Rio del Rey, were described by Messrs. Boulanger, E. A. Smith, A. G. Butler, and G. E. Dobson respectively.

Prof. Flower exhibited a photograph of Rudolphi's Whale (Balanoptera borealis), taken in October in the Thames near Tilbury. This species was formerly regarded as one of the rarest of the Cetacea. A few years since 750 were captured in one season off the coast of Scandinavia; but, after two seasons, the shoals disappeared. Of the geographical distribution of this and other species of Whales much remains to be discovered.

The next meeting of the Society will be held on Tuesday, Dec. 6th.—P. L. Sclater, Secretary.

#### ENTOMOLOGICAL SOCIETY OF LONDON.

November 2, 1887.—Dr. David Sharp, F.Z.S., President, in the chair. Mr. Stevens exhibited a specimen of Acidalia immorata, L., purchased by him some years ago at the sale of the collection of the late Mr. Desvignes. Mr. Stevens remarked that specimens of the insect lately captured near Lewes had been described last month by Mr. J. H. A. Jenner as a species new to Britain.

Mr. Adkin exhibited, and made remarks on, a series of male and female specimens of *Arctia mendica* from Co. Cork; he also exhibited for comparison two specimens of *A. mendica* from Antrim, and a series of bred specimens from the London district. Some of the males from Cork were as white as the typical English females, but the majority of them were intermediate between the form last mentioned and the typical English form of the male.

Mr. Enock exhibited a specimen of Calocoris bipunctatus containing an internal parasitic larva.

Dr. Sharp exhibited three species of Coleoptera new to the British list, viz.:-(1) Octhebius auriculatus, Rey, found by Messrs. Champion and Walker some years ago in the Isle of Sheppey, but described only quite recently by M. Rey from specimens found at Calais and Dieppe. (2) Limnius rivularis, Rosenh., found by the late Dr.J. A. Power at Woking; the species, though not uncommon in Southern Europe, had not, he believed, been previously found farther north than Central France. (3) Tropiphorus obtusus, Bonsd., taken by himself on the banks of the Water of Cairn, Dumfriesshire; he had considered previously that this might be the male of T. mercurialis, but M. Fauvel, who was studying the European species of the genus, informed him that this was not the case. Dr. Sharp also exhibited a Goliathus recently described by Dr. O. Nickerl as a new species under the name of Goliathus atlas, and remarked that the species existed in several collections, and had been supposed to be possibly a hybrid between G. regius and G. cacicus, as its characters appeared to be exactly intermediate. He also exhibited a living example of the Mole Cricket, Gryllotalpa vulgaris, from Southampton; between the spines of its hind legs were a number of living Acarids placed in a symmetrical manner so as to appear as if they formed a portion of the structure of the limb.

Mr. Eland Shaw exhibited two species of Orthoptera, which had been unusually abundant this year, viz. *Nemobius sylvestris*, from the New Forest, and *Tettix subulatus*, from Charmouth, Dorset.

Mr. E. B. Poulton exhibited the cocoons of three species of Lepidoptera, in which the colour of the silk had been controlled by the use of appropriate colours in the larval environment at the time of spinning up. Mr. Poulton said this colour susceptibility had been previously proved by him in 1886 in the case of Saturnia carpini, and the experiments on the subject had

been described in the Proc. Royal Society, 1887. It appeared from these experiments that the cocoons were dark brown when the larvæ had been placed in a black bag; white when they had been freely exposed to light with white surfaces in the immediate neighbourhood. Mr. Poulton stated that two other species subjected to experiment during the past season afforded confirmatory results. Thus the mature larvæ of Eriogaster lanestris had been exposed to white surroundings by the Rev. W. J. H. Newman, and creamcoloured cocoons were produced in all cases; whilst two or three hundred larvæ from the same company spun the ordinary dark brown cocoons among the leaves of the food-plant. In the latter case the green surroundings appeared to act as a stimulus to the production of a colour which corresponded with that which the leaves would subsequently assume. Poulton further stated that he had more recently exposed the larvæ of Halias prasinana to white surroundings, and had obtained a white and a very light yellow cocoon-far lighter than the lightest of those met with upon leaves. The larva which spun the white cocoon had previously begun to spin a brown one upon a leaf, but upon being removed to white surroundings it produced white silk.

Mr. Stainton suggested that larvæ should be placed in green boxes, with the view of ascertaining whether the cocoons would be green. He understood that it had been suggested that the cocoons formed amongst leaves became brown because the larvæ knew what colour the leaves would ultimately become.

Mr. Poulton said he felt convinced that the whole process was entirely involuntary, and that the susceptibility had arisen through the action of natural selection. The discussion was continued by Mr. Waterhouse, Dr. Sharp, Mr. M'Lachlan, and others.

Mr. Klein read "Notes on Ephestia Kuhniella," and exhibited a number of living larvæ of the species, which he said had been recently doing great damage to flour in a warehouse in the East of London.

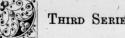
Mr. A. G. Butler contributed a paper "On the species of the Lepidopterous genus *Euchromia*; with descriptions of new species in the collection of the British Museum."

Lord Walsingham communicated a note substituting the generic name *Homonymus* for the generic name *Ankistrophorus*,—which was preoccupied,—used in his "Revision of the genera *Acrolophus* and *Anaphora*," recently published by the Society.

Mr. Waterhouse announced that at the December meeting he would exhibit a series of diagrams of wings of insects, and make some observations on the homologies of the veins.—H. Goss, Hon. Secretary.

The Zoologist January 1887

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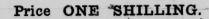
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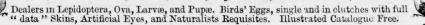
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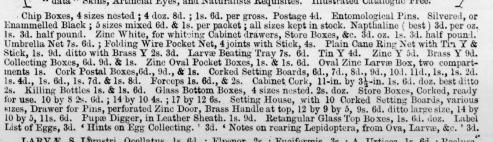
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